

ABSTRACT

A method of operating a superconducting cable using a conductor cooled by a refrigerant to transmit electric power causes a change in the refrigerant temperature to change the transmission capacity of a superconducting cable (110, 120, 130). Since superconducting materials are capable of increasing the value of their critical current as the temperature decreases, the refrigerant temperature may be changed to change the transmission capacity of the superconducting cable (110, 120, 130) without overdesigning of cabling or an additional cable.